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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,145	10/24/2003	Arlin R. Jones	10990268-3	1664

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HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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LEE, CHEUKFAN

ART UNIT	PAPER NUMBER
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2625

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/693,145

Applicant(s)

JONES, ARLIN R.

Examiner

Cheukfan Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5 and 6 is/are rejected.
- 7) ☒ Claim(s) 3,4, and 7-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. Claims 1-12 are pending. Claim 1 is independent.
2. The Examiner agrees with Applicant on that the claims as preliminarily amended defines over Minagawa et al. (U.S. Patent No. 5,915,158), the prior art applied in the rejection of the Office Action, mailed March 12, 2003, of the parent application Serial No. 09/395,262. Minagawa et al. does not disclose the claim 1 new limitation "measuring first reflected light from a first section of the object that moves past an optical sensor during decelerating the object". Minagawa et al. does not measure any light during the decelerating the document (in the left-to-right direction as viewed in Figs. 9's and 10).
3. Claims 1-12 are objected to because of the following:

In claim 1, line 6, the term "an optical sensor" should – the optical sensor – in order to refer to the basis set forth on line 5.

Claims 2-12 are objected to as being dependent on the objected base claim 1.
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1, 2, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tom et al. (U.S. Patent No. 6,369,918).

Regarding claim 1, Tom et al. discloses a method of reducing distortion of scanner restarts. In the detailed, exemplary embodiments corresponding to prior art (Figs. 1 and 2) and the invention of Tom et al. (Fig. 4), the scanner is of the type in which a motor moves the image sensor "vertically down the image", i.e., the motor moves the image sensor in the subscanning direction of the scanner. Tom et al. teaches reducing image distortion caused by "continued forward movement" after a pause signal is issued (col. 2, lines 40-42, for example).

Tom et al. also states the following, in describing the type of scanners to which the image distortion reduction or elimination technique(s) or principle is applicable, the image distortion caused by "**continued forward movement**" (and other factor(s)) after a pause signal is issued (col. 2, lines 40-42, for example):

"Some scanners move the image instead of the sensor ..., but the principles are the same." (for the prior art scanners according to Tom et al.) (col. 1, lines 40-43),

"The scanner may instead be configured to move the image instead of the sensor. (These choices are not critical to the invention.)" (col. 6, lines 20-26), and

"The stepper motor may ... move the image" (for the invention of Tom et al.) (col. 4, lines 60-62).

Because of the type of scanner employed in the exemplary embodiments, the method of Tom et al. for using a scanning device, comprises decelerating an optical sensor from moving at a first substantially constant speed, measuring first reflected light from a first section of the original/object while the image sensor moves past a portion of the original including the first section during decelerating the optical sensor (in the "continued forward movement of the sensor after a pause signal is issued), causing relative movement between the optical sensor and the original (moving the optical sensor backward, see region 30 in Fig. 1), and measuring second reflected light from the first section of the original (in region 38 of Fig. 1) (col. 2, lines 20-63).

From the disclosure of Tom et al. and the above discussion with respect to the type of scanner in which the motor moves the original during scanning, one of ordinary skill in the art would have 1) realized the difference in control between the two types of scanners, i.e., the type that the motor moves the original and the type that the motor moves the optical sensor during scanning or image reading, and 2) known how to implement control of the type of scanner in which the motor moves the original. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify, using the same principle as described in the detailed exemplary embodiment(s) of Tom et al., the method of Tom et al. to provide a method comprising decelerating an object/original from moving at a first substantially constant speed, measuring first reflected light from a first section of the object/original that moves past an optical sensor during decelerating the object/original, causing relative movement

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between the object/original and the optical sensor, and measuring second reflected light from the first section of the object/original, as suggested by Tom et al.

Regarding claim 2, according to col. 2, lines 23-24 and 30-32, the sensor measures or detects the (first reflected light (in the "continued forward movement" of the sensor) and inherently outputs a set of signals corresponding to the reflected light, although the set of signals is not sent to the butter. This set of signals meets the claimed first set of data. Further, according to col. 2, lines 60-63, it is inherent that the sensor generates a second of data when scanning resumes (Fig. 2, region 40). This second set of data meets the claimed second set of data.

Regarding claim 5, the claim recites "causing relative movement includes moving the object in a first direction, opposite a second direction the object moves through the scanning device during scanning, for a first distance substantially equal to a sum of an acceleration distance of the object and a deceleration distance of the object". The moving the object in a first direction opposite a second direction that the object moves through the scanning device during scanning corresponds to the feature in Tom et al., i.e., the moving of the sensor "backward" in region 30 (Fig. 1). The total distance moved in region 30 is understood to include not only the distance corresponding to the "continued forward movement" of the sensor but also the distance during acceleration of the sensor to be performed after resuming the reading operation (col. 2, lines 38-59). Thus, based on the discussion and reason of obviousness for claim 1 with respect to

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the case where the original is moved instead of the image sensor, it would have been obvious to one of ordinary skill in the art the invention was made to modify Tom et al., using the same principle as that of the exemplary embodiments as discussed above for claim 1, to provide moving the object/original in a first direction (backward direction shown in Fig. 1 of Tom et al.) opposite a second direction the object moves through the scanning device during scanning (forward direction shown in Fig. 1 of Tom et al.).

Claim 5 further recites "causing relative movement includes moving the first section of the object past the optical sensor at the first substantially constant speed in the second direction". This claim limitation corresponds to the feature of Tom et al. shown in region 38 of Fig. 1, in which the first section of the original that was moved in the "continued forward movement" of the sensor gets read or scanned (again) (col. 2, lines 57-59 and 38-42). Thus, based on the discussion and reason of obviousness for claim 1 with respect to the case where the original is moved instead of the image sensor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Tom et al., using the same principle as that of the exemplary embodiments as discussed above for claim 1, to provide moving the first section of the object/original past the optical sensor (image sensor) at the first substantially constant speed in the second direction (forward direction shown in Fig. 1 of Tom et al.).

Regarding claim 6, because the second set of data and the first set of data both are generated from the same first section of the original, and the second set is transferred and kept in the buffer but the first set is not, the keeping of the second set

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but not the first set is considered replacing the first set of data with the second set of data, which meets the claimed "replacing the first set of data with the second set of data".

6. Claims 3, 4, and 7-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is an examiner's statement of reasons for allowance:

Claims 3 and 7 would be allowable because Tom et al. (U.S. Patent No. 6,369,918), the closest prior art reference of record, does not teach or suggest both moving the optical sensor and moving the object or original in reducing distortion of an image of the original. Tom et al. discloses moving either the optical sensor or the original, not both, in reducing image distortion of an image of the original.

Claim 4 depends on claim 3, and claims 8 and 9 depend on claim 7.

Claim 10 would be allowable because Tom et al. (U.S. Patent No. 6,369,918), the closest prior art of record, does not disclose moving both the optical sensor and the object/original in reducing distortion of an image of the original.

Claims 11 and 12 depend on claim 10.



Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Minagawa et al. (U.S. Patent No. 5,915,158)

Ono (U.S. Patent No. 5,444,555)

Kageyama et al. (U.S. Patent No. 6,934,058)

Walker (U.S. Patent No. 5,369,504)

Huang (U.S. Patent No. 6,615,115)

Takei et al. (U.S. Patent No. 5,473,445)

Tsai (U.S. Patent No. 5,719,404)

Nagano (U.S. Patent No. 6,160,636)

Miyajima (U.S. Patent No. 6,388,777)

Furuoya (U.S. Patent No. 5,805,294)

Harada et al. (U.S. Patent No. 5,499,804)

Ogura (U.S. Patent No. 4,908,664)

Bell (U.S. Patent No. 4,748,514)

Matteson (U.S. Patent No. 4,367,493)

Kumashiro (U.S. Patent No. 5,864,408)

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (571) 272-7407. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Cheukfan Lee  
January 1, 2007